

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing 02 AUG 2006
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

29222

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IL2005/000509

International filing date (day/month/year)
17.05.2005

Priority date (day/month/year)
17.05.2004

International Patent Classification (IPC) or both national classification and IPC
INV. G06F3/033

Applicant
EPOS TECHNOLOGIES LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IL2005/000509

**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-64
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-64
Industrial applicability (IA)	Yes: Claims	1-64
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1 Reference is made to the following document/s/:

- D1: WO 03/088136 A (EPOS TECHNOLOGIES LIMITED; ALTMAN, NATHAN; ELIASHIV, ODED) 23 October 2003 (2003-10-23) cited in the application
- D2: US-A-4 814 552 (STEFIK ET AL) 21 March 1989 (1989-03-21)
- D3: EP-A-0 312 481 (EZQUERRA PEREZ, JOSE MANUEL; SANCHEZ FERNANDEZ, FRANCISCO JOSE; NOMBEL) 19 April 1989 (1989-04-19)

2 INDEPENDENT CLAIM 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The subject-matter of claim 1 appears to be directed to an acoustic-based position detection system and the related problem of clock synchronization between the emitter and detector. The solution appears to be the addition of a second emitter for emitting a synchronization signal and a second detector to detect said synchronization signal, said signal being characterized by a sequence of at least two synchronization sub-signals, each sub-signal bearing timing data for the acoustic waveform.

The use of a second emitter/detector pair in an acoustic-based position detection system is already known from the prior art.

D3 teaches of an ultrasonic position detection system in which synchronization is provided by a synchronization signal emitted and detected by a separate infrared emitter/detector pair, which delivers said synchronization signal at the instant the ultrasonic emitter delivers a signal (see citations in ISR, especially, Figures 5,6 and p. 5, l. 57 - p. 7, l. 7).

D2 teaches of an ultrasound position detection device which employs a separate wireless infrared connection to provide timing data. An IR transmitter transmits a series of pulses

indicating to the controller the timing of the origin of the sound pulse (see citations in ISR, especially, col. 2, ll. 30-35 and ll. 64-68, as well as col. 3, ll. 62-68).

D1, from the same applicant as the present application, teaches of a acoustic-based position detection system comprising a synchronizer operable to use IR or RF signaling. To address the synchronization issue, the base station preferably uses a certain time or frequency slot to transmit to the host a synchronization pattern which the host can use to determine the phase difference between its own clock and the positioning time base clock. The phase pattern can be regularly transmitted to compensate for clock drift (see citations in ISR, especially, claims 1, 23, 40, 41 and p. 26, ll. 10-25).

The document D1 is regarded as being the closest prior art.

The subject-matter of claim 1 therefore differs from this known position detection system in that the system of claim 1 operates on a synchronization signal which is a sequence of at least two sub-signals, whereas, the system of D1 discloses a synchronization pattern transmitted in a certain time or frequency slot.

Since these features are technically vague, it is not immediately apparent what technical difference, if any, can be identified, nor what technical effect would be obtained. On the contrary, it would appear in fact that the synchronization pattern of D1 can be viewed as the sequence of at least two sub-signals in claim 1 (e.g., each sub-signal occupys a specific time- or frequency- slot). Ultimately, at this level of abstraction, it would appear that no technical difference can be identified and that no technical problem is solved by this feature.

Therefore, the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

Furthermore, dependent claims 2-32 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1-D3 and the corresponding passages cited in the search report.

3 INDEPENDENT CLAIM 33

Independent method claim 33 is the method-claim analog to independent system claim 1 and, therefore, the objections raised to claim 1 apply, *mutatis mutandis*, to the subject-matter of claim 33.

Therefore, the subject-matter of claim 33 cannot be considered as involving an inventive step (Article 33(3) PCT).

Furthermore, dependent claims 34-63 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1-D3 and the corresponding passages cited in the search report.

4 INDEPENDENT CLAIM 64

Independent claim 64 is directed to a system with the same features as the system of claim 1, with the addition of another detector arrangement for additionally determining the attitude of a positional element. This claim, having all of the features of claim 1, should, in accordance with Article 6 PCT and the requirements of conciseness and clarity, should be drafted as a dependent claim. However, this lack of clarity notwithstanding, the subject-matter of the claim is not considered to involve an inventive step in the sense of Article 33(3) PCT because the features are known from the prior art for solving the same problem (see document D1, especially, p. 10, ll. 22-29, p. 34, ll. 1-14, and claim 53).